



Folkhälsomyndigheten  
PUBLIC HEALTH AGENCY OF SWEDEN

# An eleven years follow-up of gambling and health among people with previous gambling problems

Results from Swelogs follow-up study 1998-2009



# Summary

Swelogs, Swedish Longitudinal Gambling Study, is a research program conducted and financed by the Public Health Agency of Sweden. This report presents the results of Swelogs follow-up study, which returned to the persons selected for a follow-up after a population study in the late 1990s. The problem gambling group consisted of people with current or previous gambling problems. The group was defined through the problem gambling instrument South Oaks Gambling Screen Revised (SOGS-R) using both the current and lifetime versions. Problem gamblers were defined as people who scored three points or more on the scales. The comparison group consisted of people without gambling problems with the same gender and age characteristics as the problem gambling group.

The follow-up study was carried out in 2009, eleven years after the initial study, to see if there had been any changes in the gambling behavior, gambling problems and health of the participants. The follow-up study focused on:

How did the group with gambling problems differ from the comparison group regarding gambling behavior, gambling problems, health and socioeconomic status?

How had gambling behavior, gambling problems and health changed over time for the group with gambling problems and the comparison group?

## Gambling behavior

The majority of the group with gambling problems gambled at the time of the follow-up study, 90 percent had gambled at some time during the last year and 61 percent gambled monthly. The group gambled to a greater extent than the comparison group with regards to frequency, time spent and amount gambled. They also gambled on a wider range of gambling forms with higher risk potential. Overall it was the older participants in the group (aged 36–85 at the follow-up) who gambled most intensively.

The most popular forms of gambling for the problem gambling group were lotteries, sports betting and horse racing. Few gambled on gambling machines or casino gambling, which had been amongst the four most popular gambling forms for the group eleven years earlier. The greatest change in gambling behavior occurred in the younger age group (27–35 years) who decreased their level of gambling except for on lotteries and number games. The most stable gambling forms over time were horse racing, lotteries and number games and sports betting. At the follow-up, these gambling forms and casino gambling had the strongest correlation with gambling on the Internet. High-risk gambling had largely moved online in 2009. This was partly because high-risk gambling forms from 1997/1998 were offered online at the follow-up and partly because a number of medium-risk gambling forms became high-risk gambling forms when they went online.

## Gambling problems

At the time of the follow-up, people in the gambling problems group still had more severe gambling problems than the control group. However, the number of participants in the gambling problems group with continuing severe problems was relatively small. 24 per cent were at-risk gamblers, 7 per cent problem gamblers and 6 per cent probable pathological gamblers. Those who had gambling problems at the follow-up had either relapsed or had continuing gambling problems over the 11-year term.

Despite the finding that many participants in the gambling problems group continued to gamble at the follow-up, we discovered a relatively low level of gambling problems. We found an association between participants who gambled on medium and high-risk gambling forms and gambling problems. Having gambled on medium and high-risk gambling forms resulted in a higher risk of gambling problems. The gambling problems group also had a higher prevalence of early risk factors for developing gambling problems. The group scored higher on all three dimensions of the Jonsson and Abbott scale which are: reinforcing (for example thinking that gambling was the most enjoyable thing there is and gambling to escape problems), over consumption of gambling (for example finding it difficult to stop gambling) and misconceptions (for example the belief that they can win based on skill). Only very few people in the gambling problems group (4 people or 2 per cent) had ever sought help for their gambling.

## Health and socio-economic status

The gambling problems group indicated more signs of reduced mental health in comparison with the comparison group, including more days of poor mental health. There were no differences in the physical health between the groups. A larger percentage of participants in the problem gambling group had risky drinking habits and were more likely to use tobacco than the comparison group. When we separated the younger and older groups, we found it was only the older participants from the gambling problems group that smoked more and had more risky drinking habits.

There were no income differences between the groups, however there were many participants in the gambling problems group who said their personal finances were strained. Many people in the problem gambling group had been unemployed and received income support at some point. There was no difference between the groups regarding disability or sickness benefits and disposable income.

All groups had good access to social support, although the gambling problems group to a slightly lesser degree. There were no differences regarding experience of fear, threat and violence between the groups, other than that a larger proportion of the problem gambling group had at some point in their life been threatened so that

they became frightened. There was no difference between the groups in terms of job satisfaction.

## Differences between the older and young age groups within the gambling problems group

We chose to divide the problem gambling group into two age groups; the younger age group (27–35 years at follow-up 2009) and the older age group (36–85 years at follow-up 2009). In 1997/1998 the younger age group gambled to a higher extent on gambling machines and poker compared to the older age group and the older age group were more likely to gamble on sports, lotteries or horse racing. The younger age group had reduced their gambling to a higher extent than the older group at the follow-up in 2009. In 2009 there was no longer a difference between the older and younger groups' gambling on poker and gambling machines, however gambling on sports, lotteries and horse racing continued to be more common amongst the older age group. There were also more people in the older age group who had severe gambling problems at the follow-up. The older age group was more likely to experience gambling as psychologically rewarding compared to the younger age group.

A larger proportion of the older age group had risky drinking habits, used tobacco and had poor mental health. There were also many people in the older age group who experienced financial difficulties and a larger proportion had been unemployed. In summary, it was the older participants in the gambling problems group (36–85 years) who continued to be vulnerable from a social, economic and problem gambling perspective.

## Which factors predicted gambling problems at the follow-up?

The gambling problems group was comprised of both people who had gambling problems in 1997/1998 and people who had had gambling problems at some point in their lives. The participants with current gambling problems in 1997/1998 had higher average rates of gambling problems at the follow-up in 2009 compared to the group with previous gambling problems in 1997/1998. This was despite the fact that there were no differences regarding gambling behavior, gambling misconceptions, the reinforcing effect of gambling (such as believing that you can gain friends from gambling), or for mental health.

When the analysis took into account one factor at a time from T0 1997/1998 and T1 1999–2001, the following factors were most clearly associated with gambling problems in 2009 (in descending order):

- Severity of gambling problems T0
- High total expenditure T0
- Ongoing gambling problems T0

- High risk potential of gambling form T0
- Monthly gambling on sport and/or horse racing in T0
- Socially insecure childhood T1
- Risky drinking habits T1
- Won a large amount on a single occasion T1
- Emotionally insecure childhood T1

When it comes to co-occurring factors in 2009, it appears that the explanatory effect of the gambling form's risk potential is reduced when gambling behavior is accounted for. Additionally, if we account for how rewarding gambling is psychologically, the explanatory effect of gambling misconceptions disappears. In regards to monthly gambling on different gambling forms, poker and gambling machines have a clear explanatory effect. When we accounted for multiple factors at the same time in the analysis, we saw that the strongest correlation with gambling problems in 2009 was the severity of gambling problems in 1997/1998 (the more severe the problems, the larger the risk of having gambling problems at the follow-up), if gambling problems were current in 1997/1998 and the amount of money spent on gambling. Gambling on high-risk gambling forms and gambling at least once a month on sport and/or horse racing in 1997/1998 predicted gambling problems eleven years later. Negative experiences in childhood (such as the lack of a socially stable and emotionally secure upbringing), risky drinking habits and having won a large amount on gambling also predicted gambling problems at the follow-up. Previous problems with gambling and/or having been a heavy gambler, increased the risk of gambling problems and the risk increased depending on the risk level of the gambling form.

In conclusion, we can establish that the problem gambling group has continued to have more problems with gambling, health and finances than the control group. Nevertheless, many people in the gambling problems group no longer had problems with gambling despite the fact that they continue to gamble. The continued health and financial problems may have been caused by a variety of factors, but it is reasonable to assume that some of them are harms deriving from gambling problems.

## Discussion

The majority of those with current or previous gambling problems in 1997/1998 no longer had problems with their gambling at the follow-up in 2009. Other follow-up and longitudinal studies also show that a large percentage of problem gamblers recover from their gambling problems with time [1–6]. The exception is research from Australia which shows that most problem gamblers continued to have problems at follow-up [7]. This difference can be the result of access to gambling machines in Australia. Australia has the most gambling machines per capita after Japan and areas which are gambling destinations (for example Macau or Saint

Maarten) [8]. Accessibility to gambling machines can therefore be a risk factor for continued gambling problems (i.e. both ongoing problems and an increased risk of relapse).

Increasing research on the risk potential of different gambling forms [9] shows, amongst other findings, that faster gambling forms have a higher risk potential for gambling problems. This study found that current gambling on poker, gambling machines and online had a strong correlation with gambling problems, which is in line with the results of the Swelogs epidemiological track [1, 10]. It is also in line with the findings from Stodlinjen, Sweden's gambling helpline, where gambling machines have been the most problematic gambling form [11]. We also found in this study that previous gambling problems increased the risk of developing gambling problems again (i.e. relapse), especially if gambling on medium and high-risk gambling forms. The results provide further support for the regulation of more dangerous gambling forms in order to reduce gambling problems. Relapse prevention can be directed towards avoiding more dangerous forms of gambling (those with medium and high risk potential). The results also raise questions about whether people with previous gambling problems should or should not abstain completely from gambling, especially as we found that many participants in this study gambled without problems at the follow-up. More research is needed in regards to this and the Swelogs epidemiological track will likely provide more knowledge in the area.

This study found that people in the problem gambling group were more likely to have mental health problems, risky alcohol and tobacco habits and financial problems at the follow-up than the comparison group. This was especially true for the older age group. These results are in line with the results from the group examined in the Swegs in-depth study [12], which suggests that the problems are persistent over time. The results are in line with much of the existing research on gambling problems [13]. The vulnerability experienced by many problem gamblers means that prevention and health promotion work for problem gambling could benefit from being developed in a wider societal context. For example, together with preventative activities in alcohol, narcotics or tobacco or as part of general health promotion activities. Another approach is to introduce screening of problem gambling within primary care or in other settings or locations where problem gamblers are.

At the same time, it is important to remember that differences exist within the groups. For the majority of the gambling problems group there was no indication of mental health problems, risky drinking habits or socioeconomic disadvantage. Therefore there is also reason to develop more prevention activities that are gambling specific.

In this study it appeared to be older problem gamblers who experienced the most negative impacts of their gambling. They gambled more often and spent more money and time on their gambling in comparison to the control group, which is not the case for the younger problem gamblers. Many of the younger people in the

gambling problems group had stopped gambling while the older age group had continued to gamble to a greater extent. They also gambled to a greater extent on medium and high risk gambling forms. The older participants within the problem gambling group exhibited more risky drinking habits, higher levels of tobacco use, more mental health and financial problems and were more likely to have been unemployed than the control group. More of the older age group had ongoing severe gambling problems in comparison to the younger age group. These problems may have been caused by a variety of factors, but it is reasonable to assume that some of them are the result of gambling problems, that is the harmful effects of gambling.

The differences between the older and younger age groups in the gambling problems group may be due to a generational effect, where the older age group have been subjected to various circumstances that have increased their vulnerability. This raises questions on whether different types of prevention activities should be developed and directed to specific groups. Indicative (directed towards individuals showing signs of gambling problems) and selective (directed towards risk groups) prevention initiatives could be developed and distributed amongst people in the same age range as the older participants from the gambling problems group. At the same time, it is important that universal prevention initiatives are developed in order to prevent gambling problems from developing in the general population.

This study found that the strongest predictors of gambling problems in 2009 were the severity of gambling problems and gambling behavior eleven years earlier, an insecure childhood and previous risky drinking habits. This is in line with the results from the Swelogs in-depth study where alcohol and drug problems, weak impulse control, previous gambling problems and an insecure childhood were all risk factors for problem gambling [14]. Other gambling research with follow-up has found some of the same predictors for gambling problems [3, 5, 7].

Blaszczyński and Nower's [15] pathways model identifies three groups with different ways of manifesting gambling problems: (1) behaviorally conditioned problem gamblers without previous psychological problems, (2) emotionally vulnerable problem gamblers with a history of psychological problems and (3) antisocial, impulsivist problem gamblers with biological tendencies. Alcohol problems are more common for groups 2 and 3 and the predicted outcome for gambling problems is also worse, based on the theory that an insecure childhood and alcohol problems can predict continuing gambling problems. The theory was supported by the findings of this study. It is therefore reasonable to believe that initiatives that promote a secure childhood and reduce alcohol problems will also result in reduced gambling problems.

It is interesting that gambling forms with a medium level of risk in 1997/1998 with a connection to sports and horse racing had the strongest association with continued problems at the follow-up. The results are the same as a follow-up study in New Zealand [5]. It was mostly the younger age group who gambled on poker and gambling machines in 1997/1998. Sports betting was more common in the

older age group, both in 1997/1998 and in the follow-up. It may be simply that those gambling forms build up more interest and knowledge in sports than for example gambling machines, which increases the likelihood of continued gambling in this area. Overall, it appears that places where sports betting and horse racing is offered and where gamblers socialize (for example race tracks and sales offices) are important settings for prevention.



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